Ladybird beetles - Why are there so many of them this fall?

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History

Ladybird beetles are one of those wonderful beneficial insects usually welcomed in orchards, fields, and home gardens. They belong to the family Coccinellidae, a group of insects with about 5000 species worldwide and about 400 in North America. These beetles are generalist predators that feed primarily on aphids and other soft-bodied insects, but they will also include mites, scale insects, thrips, insect eggs, pollen, and nectar in their diets.

Ladybird beetles had a very good season in 2001, with plenty of their favorite food around including a remarkable number of soybean aphids. Summer is now officially over, taking with it a large portion of the insect bounty ladybird beetles used as a food source. Where do these beetles go and what do they eat when the seasons change?

Most people stop thinking about their insect woes around this time of the year. Yet the insects are outside, surviving the cold temperatures using a wide variety of successful strategies. One simple option is to spend the winter as eggs, which sit patiently until spring arrives. Other insects avoid the cold altogether by migrating to warmer climates - Monarchs migrate thousands of kilometres to overwinter in Mexico. Some hibernate - they enter a period of reduced metabolic activity called diapause, in response to changing environmental conditions such as decreasing temperatures, shortened days, and changes in food quality. As the days shorten, overwintering insects seek out protected sites, including crevices under rocks and bark, beneath plant litter, in the soil ... some will even find their way into your house! In the fall, it is quite common to see large aggregations of ladybird beetles invading peoples' homes. Essentially, they are looking for a place to overwinter.

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Description

The most common lady beetle species massing in homes over the last few years is known as the multicoloured Asian lady beetle, Harmonia axyridis, an import brought over at the turn of the century to help control tree-inhabiting aphids (There is some confusion over when it first arrived; it has probably been introduced either accidentally or by design on several occasions). This insect is now well established throughout North America. Because they were imported without their natural enemies - parasites, predators and pathogens - their populations may not be undergoing the natural checks and balances that occur in their native range. They are extremely efficient, effective, and important beneficial biological control agents in agricultural systems. The adults are highly variable in appearance - individuals can be any colour from a pale orange to a deep orange-red, with the number of spots ranging from none to over 20! One distinctive feature includes a design on the prothorax - the region of the body behind the head - which is cream coloured with four black spots forming the letter "M". This species tends to be more aggressive than our native ladybird beetles; they will attempt to "bite" when handled (the bite is not particularly painful).

In the fall, adults are attracted en-masse to buildings or rock outcroppings in search of

places to overwinter. The multicoloured Asian lady beetle is primarily a tree-dwelling insect, and homes near forested areas are particularly prone to infestation. The beetles tend to find illuminated, light- coloured buildings most attractive. Upon landing in their chosen "tree" (perhaps your home), they seek out crevices around doors and windows, porches, garages, siding, shingles, walls and attics.

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Control

Normally beetles remain inactive during the winter, but in the home they may be warmed sufficiently to become active before they ought to be. On sunny days in the winter and early spring, they may be attracted to windows and doors in an effort to get outside. The problem for most homeowners is that they secrete a smelly, yellow fluid that can stain walls and fabric, when agitated or squashed. Homeowners have a few options for control. One of the most effective ways is to prevent entry in the first place by ensuring any cracks are properly sealed. If you are able to locate where they are congregating, vacuuming seems to work well (freeze the bag if you want to remove them permanently). Household insecticides may be available, but they are generally not recommended. For additional information on the control of these insects in the home visit on of the following websites:

www.cce.cornell.edu/factsheets/pest-fact-sheets/lady-beetle.html

www.uky.edu/Agriculture/Entomology/entfacts/trees/ef416.htm

www.msue.msu.edu/ipm/CAT01_fruit/F09-11-01.htm

What has been particularly disturbing has been a series of reports from Ontario and the Northeastern United States of these beetles actually attacking and feeding on ripening fruit (grapes, peaches, nectarines, and various berry crops). Why would these insects be feeding on fruit at this time of the year? Are they actually causing the initial damage in the fruit, or are they responding to over-ripe fruit or fruit that has been damaged either mechanically or by some other insect. Many insects, including sap beetles, yellowjackets, honeybees, flies, and ants, will respond to damaged fruit crops as a potential sugar source. In other words, ladybird beetles would certainly have lots of potential company in the orchard or vineyard this time of year.

If the reports are accurate, the most probable cause for this "deviant" behaviour of attacking fruit late in the season is invariably weather related. In the fall, populations of their prey items plummet: aphids move back to their primary hosts and produce overwintering eggs; scale insects are protected by a waxy covering; mites are overwintering as eggs or in protected areas. Yet the beetles are still active, requiring a food source (until, of course, they decide it is time to invade your home!). Perhaps they are attracted to the ripening fruit in orchards and vineyards as an alternate food source.

Since ladybird beetles are considered beneficial, there are no registered chemicals available for their control. The potential for direct feeding damage caused by these insects needs to be considered for the 2002 growing season, however, particularly if weather conditions once again favour the development of prey items.

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For more information

For additional information on ladybird beetles, visit the following websites:

http://www.ars.usda.gov/is/pr/2000/001030.beetlefacts.htm

http://www.nysaes.cornell.edu/ent/biocontrol/predators/ladybintro.html

http://creatures.ifas.ufl.edu/beneficial/multicolored_Asian_lady_beetle.htm

http://www.ent.iastate.edu/ipm/iiin/ladybeetles.html

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